

Customer No.: 31561
Application No.: 10/711,622
Docket No.: 12595-US-PA

REMARKS

Present Status of the Application

The Office Action rejected all presently-pending claims 1-4, 6-21 and 25-28 under 35 U.S.C. 102(b or e), as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Robinson (U.S. 6,893,325) or Jensen (U.S. 6,261,168).

Applicants have amended claims 1, 9-11, 20-21, 26 and 28 and canceled claims 25 and 27. After entry of the foregoing amendments, claims 1-4, 6-21, 26 and 28 remain pending in the present application, and reconsideration of those claims is respectfully requested.

Discussion of Office Action Rejections

Applicants respectfully traverse the 102(b or e) rejection of claims 1-4, 6-21 and 26 and 28 because Robinson (U.S. 6,893,325) or Jensen (U.S. 6,261,168) does not teach every element recited in these claims. Applicants respectfully traverse the rejection of claims 1-4, 6-21 and 26 and 28 under 103(a) as being unpatentable over Robinson (U.S. 6,893,325) or Jensen (U.S. 6,261,168) because a prima facie case of obviousness has not been established by the Office Action.

In order to properly anticipate Applicants' claimed invention under 35 U.S.C 102, each and every element of claim in issue must be found, "either expressly or inherently described, in a single prior art reference". "The identical invention must be shown in as complete details as is

Customer No.: 31561
Application No.: 10/711,622
Docket No.: 12595-US-PA

contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F. 2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).” See M.P.E.P. 2131, 8th ed., 2001.

To establish a prima facie case of obviousness under 35 U.S.C. 103(a), each of three requirements must be met. First, the reference or references, taken alone or combined, must teach or suggest each and every element in the claims. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. Third, a reasonable expectation of success must exist. Moreover, each of the three requirements must “be found in the prior art, and not be based on applicant’s disclosure.” See M.P.E.P. 2143, 8th ed., February 2003.

The present invention is in general related to a polishing pad and a method of fabricating the same as claims 1 and 11 recite:

Claim 1. A polishing pad having a top surface, a back surface, and a sidewall connected to the top surface and the back surface, and the polishing pad is divided into a polishing region and a region neighboring to the polishing region, *and the region is at the center or edge of the polishing pad*, characterized in that:

at least one stress buffer pattern disposed in the region neighboring to the polishing region, wherein the stress buffer pattern comprises a plurality of trenches or at least one opening having a first depth less than a thickness of the polishing pad; and

a plurality of trenches with a second depth disposed on the top surface in the polishing region, wherein the second depth is different from the first depth.

Claim 11. A method for fabricating a polishing pad having a top surface, a back surface, and a sidewall connected to the top surface and the back surface, and the polishing pad is divided into a polishing region and a region neighboring to the polishing region, *and the region is at the center or edge of the polishing pad*, the method comprising:

forming a stress buffer pattern in the region neighboring to the polishing region, wherein the stress buffer pattern comprises a plurality of trenches or at least one opening having a first depth less than a thickness of the polishing pad; and

Customer No.: 31561
Application No.: 10/711,622
Docket No.: 12595-US-PA

forming a plurality of trenches with a second depth on the top surface in the polishing region, wherein the second depth is different from the first depth.

Robinson (U.S. 6,893,325) and Jensen (U.S. 6,261,168) fail to teach that at least one stress buffer pattern disposed in the region neighboring to the polishing region and the top surface in the polishing region has a plurality of trenches with a second depth thereon. Robinson discloses a polishing pad 22, as shown in Fig. 6 and Fig. 7, including a non-porous surface 43 having contact portions 41 and non-contact portions 42, and a CMP solution 23 is in the non-contact portions 42. The widths (pitches) 44 for the non-contact portions 42 are uniform. Robinson does not teach or suggest that ***at least one stress buffer pattern with a first depth different from the second depth is formed in the region neighboring to the polishing region.*** Hence, Robinson does not teach every element recited in claims 1 and 11.

Jensen teaches a polishing pad, as shown in Figs. 1, 2, 4 or 5, including a plurality of polishing pad sections 12, 112, 212 or 312. Each polishing pad section is positioned adjacent to the next. In Fig. 2, two sections have groove patterns 116a, 116c and a section has no groove pattern. In Figs. 4, 5, the groove patterns in different sections may be different (such as shape). However, these groove patterns in different sections are disposed in a polishing region. Jensen does not teach or suggest at least a stress buffer pattern is formed in a region neighboring to the polishing region, wherein ***the region is at the center or edge of the polishing pad.*** Jensen also fails to teach or suggest ***the stress buffer pattern has a depth different from that of the trenches***

Customer No.: 31561
Application No.: 10/711,622
Docket No.: 12595-US-PA

formed in the polishing region. Hence, Jenson does not teach every element recited in claims 1 and 11.

For at least the foregoing reasons, Applicant respectfully submits that independent claims 1 and 11 patently define over Robinson or Jenson, and should be allowed. For at least the same reasons, dependent claims 2-4, 6-10, 12-21, 26 and 28 patently define over the prior art as well.

In addition, both Robinson and Jenson fail to teach or suggest that at least one stress buffer pattern disposed in the region neighboring to the polishing region and the top surface in the polishing region has a plurality of trenches with a second depth thereon. Therefore, the combination of Robinson and Jenson does not render claims 1 and 11 obvious, and the rejection should be withdrawn. Because independent claims 1 and 11 are allowable over the prior art of record, their dependent claims 2-4, 6-10, 12-21, 26 and 28 are allowable as a matter of law, for at least the reason that these dependent claims contain all features of their respective independent claims 1 and 11.

Customer No.: 31561
Application No.: 10/711,622
Docket No.: 12595-US-PA

CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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Respectfully submitted,



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